

species; of these only six are represented in Australia, and by only sixteen species. He adds that he has not been "struck by any special differences between the western and eastern portions of the archipelago, so far as the Longicornia are concerned;" and says further, "With regard to the Coleoptera generally, my impression is that there is a fair admixture of forms from Singapore to New Guinea, without any remarkable division between them anywhere; but that between the Australian and Malayan regions (including New Guinea) the difference, on the contrary, is really something marvellous." The weight to be attached to these observations will be more definitely ascertained when Mr. Pascoe has completed his descriptions of the species. Under any circumstances, his work will prove a valuable contribution to entomological literature.

MISCELLANEOUS.

Note on Dr. Fitzinger's Paper on Ptychochærus plicifrons.

By Dr. J. E. GRAY, F.R.S. &c.

I AM amused at Dr. Fitzinger's observation (*Annals*, *ante*, p. 80) that this Pig "has been imperfectly noticed by Bartlett and Gray." Mr. Bartlett gave a figure and an account of the external appearance and habits of the animal; and in my paper I not only described its external characters, but likewise described and figured the skull, and pointed out how it differs from that of other Pigs.

But my chief object in this note is to restate that there can be no doubt that the Pig I described came from Japan. The ship that brought it came direct from that island, and was never near Abyssinia. Also to express my astonishment that Dr. Fitzinger should try to identify it with the "Hassama" of the Abyssinians because that "animal is black, has a short blunt head and large ears"—a description that will fit several domestic breeds of the common Pig. If the "Hassama" had such a plaited face as the Japan Pig, it would not have escaped Dr. T. Von Heuglin's observation. From the description, I suspect that the animal described by Dr. Fitzinger is only one of the half-breeds bred between the typical *Centuriosus pliciceps* and a common domestic sow of the Berkshire breed, several of which were sent by a dealer to the Continent.

Note on the so-called "Japanese" Pig (*Centuriosus pliciceps*, Gray; *Ptychochærus plicifrons*, *Fitzinger*). By P. L. SCLATER, M.A., PH.D., F.R.S.

In the last number of the 'Annals,' I observed a notice of a paper by Dr. L. J. Fitzinger in the 'Sitzungsberichte' of the Academy of Vienna, in which it is stated to be Dr. Fitzinger's opinion that Abyssinia, and not Japan, is the native country of this curious animal. In confirmation of this view, Dr. Fitzinger thinks it probable that the new Pig recently discovered by Heuglin in Abyssinia, and called *Hassana*, may be the same as the so-called "Japanese" Pig.

While I agree with Dr. Fitzinger that the name of "Japanese," as applied to this Pig, is in all probability a misnomer, I believe he is quite mistaken in supposing that it has anything to do with Abyssinia, for the following reasons:—

1. As far as I have been able to ascertain, the first examples of this beast which reached Europe were those received, in 1860, by the Zoological Society of Antwerp. Mr. Jacques Vekemans, the Director of that establishment, informs me that he purchased a pair and three young of this Pig out of an English vessel, which arrived in the port of Antwerp on the 10th of February of that year. The vessel, as Mr. Vekemans believes, came from Shanghai; but the captain stated that he had bought the Pigs in Japan, which was probably the origin of their being called "Japanese Pigs."

Mr. Jamrach, the well-known dealer in living animals, who has had many of these Pigs through his hands, informs me that he believes China, and not Japan, is their true home, several cases having occurred, to his own knowledge, in which they have been imported in vessels coming direct from the former country.

2. The "*Hassana*" of the Abyssinians, recently described by Dr. Th. von Heuglin in the last-published volume of the *Acta Academiæ Leopoldino-Carolinæ**, under the new generic and specific names *Nyctichoerus Hassana*, has evidently nothing to do with the so-called Japanese Pig, but, so far as I can judge from his imperfect description, is probably a species of *Potamochoerus*, a genus which, as I have shown†, differs from *Sus* in the entire absence of the fourth premolar from each jaw.

I think, therefore, we may safely conclude that the true home of the so-called Japanese Pig is China, where, as we know, such monstrous varieties of domestic species are much appreciated. But, for my own part, I cannot see the slightest reason for regarding the "Japanese" Pig as anything more than a domesticated variety. The differences in the skull, noted by Dr. Gray (*P. Z. S.* 1862, p. 13), are no doubt considerable; but they are not greater than in the case of the Polish Fowl, with its abnormal development of the summit of the cranium, or the Pampas Cow‡, with its stunted nasals. These cases must, in my opinion, be all referred to the same category of exaggerated variation produced by lengthened domestication.

On the Flight of Birds and Insects. By E. LIAIS.

In the flight of birds and insects, there are three cases to be taken into consideration:—1, flight without locomotion; 2, flight with locomotion and beating of the wings; 3, flight without beating of the wings, or gliding flight. This third mode presupposes a previous locomotion, produced by beating of the wings. The ascensional force is then obtained at the expense of the active force of the movement of progression, by an effect of the inclination of the wings.

* Vol. xxx. (1864) Beiträge zur Zoologie Afrika's.

† *P. Z. S.* 1860, p. 301.

‡ Cf. *Cat. Ost. Ser. Mus. R. Coll. of Surgeons*, ii. p. 624, no. 3832.